

writer is indebted to the curators of the Gray Herbarium and of the New York Botanical Garden.

LAST SURVIVORS IN THE FLORA OF TIDEWATER
VIRGINIA

M. L. FERNALD

(Continued from p. 504)

CENCHRUS TRIBULOIDES L. Extending up the James to SURRY COUNTY: sand-beach, Claremont Wharf, no. 8950.

ERIANTHUS STRICTUS Baldwin. Range extended inland to GREENSVILLE COUNTY: pond-hole in pine and oak woods near Three Creek, north of Emporia, no. 9241.

Reported in 1938 as new to Virginia. Now known to us as one of the commoner species of the region from York and Prince George Counties southward. Much earlier than the plumose species, flowering chiefly from July to September and quickly identified from the moving car by its slender and stiff plumeless panicle.

E. COMPACTUS Nash. Range extended inland from Sussex County to DINWIDDIE and GREENSVILLE COUNTIES.

ARTHAXON HISPIDUS (Thunb.) Makino, var. *CRYPTATHERUS* (Hackel) Houda. To the station in Elizabeth City County add one in SUSSEX COUNTY: turfy right-of-way by railroad, Jarratt, no. 9517.

**MANISURIS RUGOSA* (Nutt.) Kuntze. SUSSEX COUNTY: exsiccated argillaceous pineland about 2 miles east of Stony Creek, no. 8916.

An interesting station, connecting those of the Carolinas with the northern outliers in Delaware and southern New Jersey. See p. 476.

CYPERUS FLAVESCENS L., var. *poaeformis* (Pursh), comb. nov. *C. poaeformis* Pursh, Fl. Am. Sept. i. 50 (1814). PLATE 574, FIGS. 1-3.

C. FLAVESCENS L., var. *piceus* (Liebm.), comb. nov. *C. piceus* Liebm. in Vidensk. Selsk. Skr. Kjøbenh. ser. V. ii. (1851) 200. PLATE 574, FIGS. 4 and 5.

True *Cyperus flavescens* of Eurasia and Africa has the mature achenes (FIGS. 6 and 7) blackish-brown, with vertical rows of oblong superficial cells and at most very obscure and tardily developed transverse zonation. In outline they are broadly obovate and (including stipe and apiculation) close to 1 mm. long. The plant of eastern North America, on the other hand, has achenes (FIGS. 2 and 3) with more prominent reticulation, the transverse ridges pronounced and in maturity becoming white bands of mineral substance suggesting

lines of frost-crystals; the body of the achene being black. In outline the achenes of this eastern North American plant (*C. poaeformis*) are rather narrowly obovoid or even ellipsoid and they measure 1–1.2 mm. long. This plant, var. *poaeformis*, extends from the West Indies and Florida to Texas, northward to southeastern New York, Pennsylvania, Ohio, Michigan, Illinois and Missouri.

In South America and Mexico *Cyperus flavescens* may have darker scales than in Europe or in the United States, but this character completely breaks down, although upon color alone Kükenthal in Engler, Pflanzenr. iv²⁰. 395, 396 (1935) maintains *C. piceus* Liebm. as a species. This Mexican and South American material, inseparable in habit, spikelets and scales from *C. flavescens* and its var. *poaeformis* (the darkening of the scales being too instable a character), has achenes (FIGS. 4 and 5) intermediate between those two: dark-brown to black, broadly obovoid, 0.9–1 mm. long, with reticulation prominent but with the white transverse ridges less developed than in var. *poaeformis* or the white quite wanting. It seems to me a reasonably good tropical American variety. Var. *POAEFORMIS* abounds in eastern Virginia.

In PLATE 574, FIG. 1 is a plant, $\times 1$, of *Cyperus flavescens*, var. *poaeformis*, from Cold Spring, New Jersey, Gershoy, no. 119; FIG. 2, achenes, $\times 10$, from Virginia, Fernald & Long, no. 9277; FIG. 3, surface of achene, $\times 70$, of no. 9277. FIG. 4 is a group of achenes, $\times 10$, of var. *piceus*, from Mexico, Pringle, no. 11,299; FIG. 5, surface, $\times 70$, of one of these achenes. FIGS. 6 and 7 show achenes, $\times 10$, and their surface, $\times 70$, of the European (typical) *C. flavescens*, from the Maritime Alps, Moggridge.

CYPERUS POLYSTACHYOS Rottb., var. **texensis** (Torr.), comb. nov. *C. holosericeus* Link, Hort. Berol. i. 317 (1827), fide Kükenthal. *C. microdontus* Torr. in Ann. Lyc. N. Y. iii. 255 (1836). *C. Gatesii* Torr. l. c. (1836). *C. microdontus*, β . *Texensis* Torr. l. c. 430 (1836). *C. fugax* Liebm. in Vidensk. Selsk. Skr. Kjøbenh. ser. 5: 196 (1851). *C. inconspicuus* Liebm. l. c. 197 (1851). *C. Liebmanni* Steud. Syn. Cyp. 7 (1855). *C. Texensis* (Torr.) Steud. l. c. 9 (1855). *C. polystachyus*, β . *Leptostachyus* Boeckel. in Linnaea, xxxv. 478 (1868); Kükenth. in Engler, Pflanzenr. iv²⁰. 371 (1935). *Pycnus polystachyus*, var. β . *laxiflora* C. B. Clarke in Urb. Symb. Antill. ii¹. 17 (1900). *C. filicinus*, var. *microdontus* (Torr.) Fernald in RHODORA, xix. 153 (1917).

There seems to me no question that our annual plant, varying from individuals with single tall culms to low and matted extremes, but always with linear spikelets only 1.2–2 mm. broad, the membranous dull obtuse or merely subacute and barely mucronulate scales 1.5–2

mm. long and the achenes only 0.8–1 mm. long, is a variety of the pantropical *Cyperus polystachyos*. It has been called many species, Torrey giving it at least three names; but accumulated material shows it, like other annuals, to be very plastic. The International Rules of Nomenclature require us to use the earliest published valid name in each category of classification. *C. microdontus*, β . *Texensis* Torr. (1836) was based on immature material (before me) of the eastern American plant and the Drummond material upon which it was based is cited by Kükenthal under var. *Leptostachyus*, which was not published until 1868.

Dwarf extremes of *Cyperus filicinus* Vahl (1806) (*C. Nuttallii* Eddy (1820)) simulate dwarfed plants of *C. polystachyos*, var. *texensis*, and on some of the Cape Cod ponds they are intermixed. It was this mixed material which lead me to reduce *C. microdontus* Torr. to varietal rank under *C. filicinus*. Boeckeler had a similar feeling about the two plants when he treated *C. filicinus* as *C. polystachyus*, var. *Macrostachyus* in *Linnaea*, xxxv. 479 (1868). *C. filicinus* is essentially a maritime species of Atlantic North America. *C. polystachyos*, var. *texensis* is tropical, extending northward in fresh (acid) soils to Cape Cod. I separate the two as follows.

C. FILICINUS. Spikelets linear-lanceolate, 1.5–3 mm. broad; scales 2–3.5 mm. long, oblong-lanceolate, subcoriaceous, lustrous, acute, prominently mucronate; achenes 1.2–1.4 mm. long.

C. POLYSTACHYOS, var. TEXENSIS. Spikelets linear, 1.2–2 mm. broad; scales 1.5–2 mm. long, narrowly elliptic-ovate, membranaceous, dull, obtuse or only subacute, barely mucronulate; achenes 0.8–1 mm. long.

Upon Curtiss, no. 3050, from Indian River, Florida, Kükenthal set up *Cyperus filicinus*, forma *splendens* Kükenth. in Engler, *Pflanzenr.* iv²⁰. 374 (1935). The sheet in the Gray Herbarium is inseparable from large extremes of *C. polystachyos*, var. *texensis* (such as Curtiss, no. 3049), except in its prolonged spikelets. Var. **TEXENSIS** is common in eastern Virginia.

C. STRIGOSUS L., var. ROBUSTIOR Britton. HENRICO COUNTY: sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, no. 8968. GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, no. 8969.

Seen by us only in these two sphagnous areas, the very tall culms usually solitary, the very slender spikelets up to 4 cm. long.

C. FILICULMIS Vahl., var. OBLITUS Fern. & Grisc. Range extended

inland to SOUTHAMPTON COUNTY: dry white sands east of Drewryville, south of Franklin and south of Sebrell, many nos.

ELEOCHARIS TENUIS (Willd.) Schultes, var. PSEUDOPTERA (Weatherby) Svenson. DINWIDDIE COUNTY: rich deciduous woods about old marl-pits east of Burgess Station, no. 9838. See p. 492.

Svenson's map 30, in RHODORA, xli. 53 (1939), indicates this characteristic plant as known in Virginia only on the Potomac.

E. ALBIDA Torr. To the two previously recorded stations (on the coasts of Northampton and Princess Anne) add one in SURRY COUNTY: sandy tidal shore of Crouch Creek, east of Scotland, no. 8584 (culms wiry). See p. 467 and MAP 3.

*SCIRPUS NOVAE-ANGLIAE Britton. SURRY COUNTY: tidal marsh at mouth of Crouch Creek, east of Scotland, no. 8593.

First station from south of the lower Delaware. Whether or not the species can finally be maintained, the occurrence of this plant, characteristic of the coast of eastern Canada and New England, close to northern colonies of *Eleocharis albida* and with *Aeschynomene virginica* is at least noteworthy. See p. 467 and MAP 2.

S. FONTINALIS Harper, var. **virginiana**, var. nov., a varietate typica differt inflorescentiae ramis ramulisque valde adscendentibus.—Calcareous springheads, alluvial woods and cypress swamps, Surry County, VIRGINIA: calcareous meadow near head of Sunken Meadow Creek, south of Claremont, April 10, 1938 (scarcely in anthesis), *Fernald & Long*, no. 7761; along rills and about springs, rich calcareous woods at head of Sunken Meadow Creek, June 12 and 13, 1938 (overripe), no. 8108; wooded calcareous springheads, Claremont Wharf, May 20, 1939 (in anthesis), no. 9839 and June 22, 1939 (overripe), no. 10,143; alluvial woods along Gray's Creek, west of Old Courthouse Corners, May 20, 1939 (mature), no. 9840 (TYPE in Herb. Gray, ISOTYPE in Herb. Phil. Acad.); border of cypress swamp, along College Run, about 1 mile west of Highgate, May 20, 1939 (in anthesis), no. 9841.

When this most interesting plant was discovered in 1938 it was identified, in spite of departure in habit of the terminal umbel, with *Scirpus fontinalis* of calcareous wooded springheads of Georgia, about 450 miles to the southwest (see RHODORA, xl. 376, 382 and 396 (1938)). We now find the Virginian plant thoroughly typical and always to be expected in the calcareous springheads and floodplains of creeks throughout the belt of fossiliferous Miocene marl-beds of Surry County; it presumably extends into Prince George at the west and into Isle of Wight at the east. All the collections are consistent in having strongly ascending rays of the terminal umbel and the latter

is rather denser than in the Georgian plant, in which the rays are more elongate and strongly divergent (as shown in *Harper*, no. 2185), thus suggesting the inflorescence of *S. divaricatus*. I can find no appreciable differences in foliage, spikelets and achenes, the latter remarkable for their very prolonged beaks. See p. 492 and MAP 15.¹

RHYNCHOSPORA MACROSTACHYA Torr. Very local in southeastern Virginia; besides Grimes's stations on Lake Drummond and on the Chickahominy River we know only the following. **PRINCE GEORGE COUNTY**: muddy tidal shore of James River, Jordan Point, no. 8983 (plants 1.8 m. high).

Throughout the area *Rhynchospora corniculata* abounds, and often simulates *R. macrostachya*. The luxuriant development of the latter in tidal mud of the James, where it is associated with such halophytic species as *Sagittaria falcata*, is noteworthy. In New England the species is confined to the most acid of peats. See p. 475.

R. PERPLEXA Britton. Recorded in 1938 as new to Virginia. To the stations there noted add the following. **GREENSVILLE COUNTY**: pond-hole in pine and oak woods near Three Creek, north of Emporia, no. 9282.

R. CADUCA Ell. Previously recorded from two stations only (in Norfolk and Sussex Counties). Now known as occasional colonies (often quite extensive) northward to **YORK** and **GLOUCESTER COUNTIES** and inland to **SOUTHAMPTON COUNTY** (many nos.). See p. 467.

R. TORREYANA Gray. Recorded in 1937 as new to Virginia. Now known in many sphagnous swales and bogs from **CHESTERFIELD COUNTY** to **GREENSVILLE COUNTY** (many nos.).

SCLERIA MINOR (Britton) W. Stone. Local range extended to **GREENSVILLE COUNTY**: sphagnous bog about 1 mile northwest of Dahlia, nos. 8615, 9842.

S. SETACEA Poir. Rather general in sphagnous boggy areas inland to **AMELIA COUNTY** (north of Winterham, no. 9000) and **DINWIDDIE** and **GREENSVILLE COUNTIES** (several nos.).

CAREX BROMOIDES Schkuhr. Reported in 1938 only from a single station on the Coastal Plain. Rather frequent in calcareous alluvium and springy swamps of **SURRY**, **SUSSEX** and **DINWIDDIE COUNTIES**.

¹ Since this went to press, Mr. Alan A. Beetle has kindly called to my attention the fact that a collection from Murrell's Inlet, Georgetown County, South Carolina, *Weatherby & Griscom*, no. 16448 (as *S. divaricatus*) is good *S. fontinalis*. He also notes, as in the National Herbarium at Washington, other sheets in the covers of *S. divaricatus* but really belonging to *S. fontinalis*: one from Springfield, Alabama (*Mohr*), another from Alexandria Louisiana (without other data). Similarly misidentified, I find in the Gray Herbarium two old sheets (without full data) from Florida and a Louisiana specimen from Josiah Hale. The range of *S. fontinalis* should be indicated on MAP 15 as extending from northern Florida to Louisiana, north into Georgia and eastern South Carolina.

**C. JAMESII* Schwein. SURRY COUNTY: rich calcareous wooded slopes along James River, Claremont Wharf, no. 9862.

Not seen by Mackenzie (N. Am. Fl.) from Virginia, its general range southward being through West Virginia, Kentucky, Tennessee and Missouri.

C. STRIATULA Michx. To the single Coastal Plain station (in Sussex County) recorded in 1937 add the following: DINWIDDIE COUNTY: dry hickory and oak woods 2-3 miles east of Dinwiddie, no. 9871. SOUTHAMPTON COUNTY: dry mixed woods by Applewhite Church, no. 10,161.

**C. AMPHIBOLA* Steud. SURRY COUNTY: rich calcareous wooded slopes along James River, Claremont Wharf, no. 9874. DINWIDDIE COUNTY: rich deciduous woods about old marl-pits east of Burgess Station, no. 9873. See p. 492.

Not recorded by Mackenzie (N. Am. Fl.) from between Maryland and South Carolina.

C. GRACILLIMA Schwein.⁵ Our only Coastal Plain station in DINWIDDIE COUNTY: alluvial woods and thickets along Hatcher's Run, north of Burgess, no. 9680.

C. OXYLEPIS Torr. & Hook. To the station in Chesterfield County recorded in 1937 add the following. DINWIDDIE COUNTY: rich deciduous woods about old marl-pits east of Burgess Station, no. 9861. SUSSEX COUNTY: rich deciduous woods along Nottoway River, southwest of Homeville, no. 10,167. See p. 492.

**C. VENUSTA* Dew. GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, nos. 9880, 10,165. SOUTHAMPTON COUNTY: sphagnous swampy woods southwest of Applewhite Church, no. 10,166.

First from north of North Carolina. See p. 491.

C. VENUSTA Dewey, var. *MINOR* Boeckel. (*C. oblita* Steud.). To the single station in Norfolk County, recorded in 1935, add the following. PRINCE GEORGE COUNTY: sphagnous boggy swale east of Gary's Church, no. 9881; seen but not collected in bog at head of Poo Run. DINWIDDIE COUNTY: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9879. SOUTHAMPTON COUNTY: wooded swamp about 7 miles south of Franklin, no. 9882. See p. 491.

C. CAROLINIANA Schwein. Recorded in 1938 from a single station only. Now found to be common (mature in May, consequently not previously recognized in early April and mid-June) from DINWIDDIE COUNTY to SURRY COUNTY, south to GREENSVILLE and SOUTHAMPTON COUNTIES.

C. WALTERIANA Bailey, var. *BREVIS* Bailey. To the two stations in Princess Anne County recorded in 1935 add the following. SUSSEX COUNTY: bushy swale south of Stony Creek, no. 9004. SOUTHAMPTON

COUNTY: wooded swamp about 7 miles south of Franklin, no. 9884. See p. 490.

**C. VERRUCOSA* Muhl. SOUTHAMPTON COUNTY: swampy woods southwest of Branchville, no. 9286.

Not recorded by Mackenzie (N. Am. Fl.) from north of South Carolina.

**C. HYALINOPSIS* Steud. (*C. riparia*, var. *impressa* S. H. Wright). SURRY COUNTY: sandy tidal shore of Crouch Creek, east of Scotland, no. 8620.

Not seen by Mackenzie (N. Am. Fl.) from between North Carolina and southern New Jersey. See p. 467.

**C. LUPULIFORMIS* Sartw. YORK COUNTY: swampy woods east of Tabb's, no. 8623.

First from south of Delaware.

**XYRIS PLATYLEPIS* Chapm. To the doubtful report from Charles City County by Mrs. Erlanson add the following, without doubt. HENRICO COUNTY: sphagnous springy swales and boggy thickets bordering Whiteoak Swamp, west of Elko Station, nos. 9007, 9008. NANSEMOND COUNTY: seeping bank of ditch at margin of woods, about 2 miles southeast of Cleopus, no. 9009. GREENSVILLE COUNTY: wooded swamp along Mill Creek, about 1 mile north of Skipper's, no. 8636; sphagnous bog about 1 mile northwest of Dahlia, nos. 8637, 9551.

Very characteristic in its large bulbous bases covered by short castaneous scales and in its broad spiraling leaves. See pp. 470, 473.

X. *CURTISSII* Malme. To the first Virginian station (first station recorded from north of Georgia), recorded in 1937 in Sussex County, add the following. DINWIDDIE COUNTY: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9011. GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, no. 8635. See pp. 470, 473.

X. *FLEXUOSA* Muhl. (*X. arenicola* Small). To the first Virginian station (pine barrens, Isle of Wight County), recorded in 1937, add the following. DINWIDDIE COUNTY: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9010. GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, no. 8638. NANSEMOND COUNTY: sandy and peaty pine barrens east of Cox Landing, south of South Quay, no. 10,566, very abundant. See p. 472.

**JUNCUS SECUNDUS* Beauv. SUSSEX COUNTY: new roadside gravel near Nottoway River, southeast of Homeville, no. 10,184. GREENSVILLE COUNTY: fallow argillaceous field and exsiccated pond-hole, north of Skipper's, no. 9888. See p. 490.

J. *CAESARIENSIS* Coville (*J. asper* Engelm.). To the Virginian station (in James City County) of Grimes add the following in

HENRICO COUNTY: open wet sandy and peaty *Magnolia* thicket in Whiteoak Swamp, east of Elko Station, no. 8650; sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, nos. 9016, 9292.

A very extensive colony 25 miles northwest of Grimes's station. See pp. 470, 473.

HELONIAS BULLATA L. HENRICO COUNTY: bushy sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, no. 9295.

Our first Coastal Plain station in Virginia, the plant associated with *Parnassia asarifolia*, *Juncus caesariensis* and other species far-isolated from their better known centers of occurrence. See p. 478.

CHAMAELIRIUM LUTEUM (L.) Gray. GREENSVILLE COUNTY: dry pine and oak woods and thickets near Three Creek, north of Emporia, very local, no. 9296. SOUTHAMPTON COUNTY: rich mixed and deciduous woods near Nottoway River, above Carey Bridge, no. 10,198. SUSSEX COUNTY: badly broken and eaten specimens once seen (in 1936) at border of woods east of Homeville.

Certainly very local on the Virginian Coastal Plain. See p. 485.

AMIANTHIUM MUSCAETOXICUM (Walt.) Gray. SOUTHAMPTON COUNTY: border of wooded swamp about 7 miles south of Franklin, nos. 9892, 10,199. NANSEMOND COUNTY: sphagnous savannah-like swale east of Cherry Grove, south of South Quay, no. 10,578, abundant.

Very definite stations on the Virginian Coastal Plain. In RHODORA, xxxix. 364 and 399 (1937), I recorded a station south of Factory Hill in Nansemond County. Retravel of the road shows that the latter station is a few rods over the state line in Gates County, North Carolina! See p. 490.

*ZIGADENUS ANGUSTIFOLIUS (Michx.) Wats. (*Tracyanthus angustifolius* (Michx.) Small.). GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, nos. 6565, 9891, only a few plants.

Extension north from North Carolina. See pp. 470, 491 and MAP 6.

Z. GLABERRIMUS Michx. Range extended inland to DINWIDDIE COUNTY: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9026; seen in some abundance some miles northwest of Burgess.

UVULARIA **pudica** (Walt.) comb. nov. *Anonymos pudica* Walt., Fl. Carol. 123 (1788). *U. puberula* Michx. Fl. Bor.-Am. i. 199 (1803).

U. PUDICA (Walt.) Fern., var. **nitida** (Britton), comb. nov. *Oakesia sessilifolia*, var. (?) *nitida* Britton in Trans. N. Y. Acad. Sci. ix. 13 (1889). *U. sessilifolia nitida* (Britton) Morong in Mem. Torr. Bot. Cl. v. 111 (1894). *U. nitida* (Britton) Mackenzie in Torreyia, viii. 14

(1908). *U. puberula*, var. *nitida* (Britton) Fernald in RHODORA, xxxvii. 407, t. 392, figs. 2, 3 and 6 (1935).

Walter's unnamed but clearly defined genus *Anonymos*,¹ *Erythronio affinis* in his Fl. Carol. 122 (1788), had in five paragraphs a good diagnosis. His generic characters, with "*capsula* turbinato-triangularis . . . Sem. *bina* in singulo loculamento depresso-globosa, ab uno latere cincta membrana vesiculari" is closely similar to Michaux's characterization of *Uvularia*, with "Cap. . . . trigona, angulis compressis . . . Sem. . . . abortatione solito paucissima; irregulariter subglobosa; ad hilum arilata," and the single species, *Anonymos pudica*, was clearly described:

pudic. 1. radice fibrosa, caule pedali, foliis amplexicaulibus alternatis ovatis, floribus terminalibus, flavescentibus, plerumque solitariis, cernuis.

Examining Walter's herbarium in 1839, Asa Gray recorded: "*Anonymos* (*Erythronio* aff.) *pudica*! = *Uvularia puberula*! Leaves with a long slender acumination [such as is frequently accentuated in pressed specimens through puckering of the upper half of the leaf], flowers & fruit none: two slender terminal peduncles." The original description of *Uvularia puberula* Michx. was very brief, but it stressed the plant "foliis . . . ovalibus, basi rotundatis, subamplexicaulibus". There is no reason to doubt Gray's identification; there is every reason to accept it. *U. pudica* (*U. puberula*) is frequent on the coastal plain of Virginia and the Carolinas and I have before me very characteristic material from Santee Canal. Walter's Flora was written "ad Ripas Fluvii Santee".

In southeastern Virginia *U. PUDICA* (typical) is occasional in woods from eastern Nansemond County westward, passing to

*Var. *NITIDA* (Britton) Fern. supra. SOUTHAMPTON COUNTY: dry sandy open pine and oak woods and thickets 6 to 7 miles south of

¹ I realize that Walter's beautifully described new genera, which, in his modesty, he hesitated to name and called *Anonymos*, are subject to ridicule by some of the younger English botanists; but, as repeatedly pointed out, as for instance by Blake in RHODORA, xvii. 130 (1915), the species under these nameless but clearly defined genera are perfectly valid *as species*. The fact that Blake in 1915 did not find some types of Walter's which were studied by Gray in 1839 is significant. In his manuscript of a full century ago Gray noted under *Clematis holosericea*, which Pursh described from a specimen said to be in "*Herb. Walter*": "There is nothing in Walter's herb. to correspond to this . . . Pursh must have carried off the specimen, or part of it." Then follows in another ink: "P. S. He has taken it all to herb. Lambert—which see." Pursh and his patron, Lambert, were not the only early botanists who felt that Walter's plants would be of better service elsewhere (for instance, see note on *Lobelia glandulosa* by Fernald & Griscom, RHODORA, xxxix. 497).

Franklin, no. 9895. NANSEMOND COUNTY: sandy and peaty pine barrens east of Cox Landing, south of South Quay, no. 10,580.

First from south of New Jersey.

*HEMEROCALLIS FULVA L., var. KWANSO Regel. SOUTHAMPTON COUNTY: well established by roadside near Oak Grove School, no. 8202.

Single-flowered *Hemerocallis fulva* is one of the abundant roadside plants; we have not before found var. *Kwanso* established as a wild plant.

LILIUM CAROLINIANUM Michx. GREENSVILLE COUNTY: open thickets, clearings and borders of woods southeast of Emporia, no. 9298, scarce; clearing at border of dry pine and oak woods, south of Skipper's, in some abundance, no. 9557. SUSSEX COUNTY: border of dry mixed woods east of Grizzard, very scarce, no. 10,202; border of dry woods northwest of Jarratt, no. 11,005. PRINCE GEORGE COUNTY: border of dry pine and oak woods 3-5 miles north of Disputanta, no. 11,004.

Characteristic of high altitudes in the Blue Ridge and the Alleghenies. See p. 485 and MAP 13.

ALETRIS AUREA Walt. To the few recorded Virginian stations add the following. GREENSVILLE COUNTY: peaty openings bordering wooded swamp along Mill Creek, about 1 mile north of Skipper's, no. 8669; sphagnous bog about 1 mile northwest of Dahlia, no. 8670 (racemes up to 3 dm. long). BRUNSWICK COUNTY: argillaceous swale about 5 miles east of Edgerton, no. 8671. See p. 472.

*DIOSCOREA BATATAS Dcne. SURRY COUNTY: established along roadside, Spring Grove, no. 9559.

BURMANNIA BIFLORA L. GREENSVILLE COUNTY: peaty openings bordering wooded swamp along Mill Creek, about 1 mile north of Skipper's, no. 9561; sphagnous bog about 1 mile northwest of Dahlia, nos. 8676, 9035, 9303. SOUTHAMPTON COUNTY: mossy pineland southeast of Sands, no. 9560.

With the exception of a collection (locality not noted) by Nuttall (Herb. Phil. Acad.) *Burmannia biflora* has apparently been unknown in Virginia since the type was collected more than two centuries ago by Clayton. Britton (*Man.*) gives the flowering period as "Sept.-Nov." In the bog near Dahlia we had unexcelled opportunity to observe the plant, which there makes an interrupted porcelain-blue film beneath half-an-acre of *Lachnocaulon anceps*, *Panicum strigosum* and other characteristic sphagnophilous plants. The first flowers were collected on July 15; on August 20 the plant was generally in flower; and on September 18 it was mature, the taller fruiting plants

1.7 dm. high, with forking inflorescences up to 3.2 cm. long. On October 14 it seemed not to have changed, though on that date it was just flowering north of Skippers. On December 31 the bog had become severely frosted and *Burmannia* was dry and scarcely recognizable. See pp. 472, 485, 488, 491 and MAP 7.

SPIRANTHES OVALIS Lindl. To the stations already recorded (in Henrico, Sussex and Southampton Counties) add one in DINWIDDIE COUNTY: rich woods about an old marl-pit, about 2 miles east of Burgess Station, no. 9563. See pp. 486, 492.

PONTHIEVA RACEMOSA (Walt.) Mohr. Add another very extensive station in SURRY COUNTY: rich deciduous woods 1½ miles east of Blizzard's Corners, no. 9305. See p. 477.

CORALLORRHIZA WISTERIANA Conrad. SURRY COUNTY: rich deciduous woods, ravine northwest of Bacon's Castle, no. 9707.

The statement on p. 489, that our station for *Corallorrhiza Wisteriana* is the first in Virginia, is incorrect. Dr. Wherry very kindly writes me of stations in the uplands of the state, in Fairfax and London Counties.

MALAXIS BAYARDI Fern. To the original station (in Nansemond County) add another on the Coastal Plain. GREENSVILLE COUNTY: dry pine and oak woods, about 1 mile north of Skipper's, no. 8906, very scarce. See p. 469.

In neighboring woodlands all the plants seen were of the relatively frequent *Malaxis uniflora* Michx.

APLECTRUM HYEMALE (Muhl.) Torr. To the Coastal Plain stations (in Surry County) already noted add others in PRINCE GEORGE and DINWIDDIE COUNTIES: all in highly calcareous areas. See pp. 486, 489.

SALIX LONGIPES Shuttlew., var. *VENULOSA* (Anderss.) Schneider. To the stations recorded in Norfolk County (in 1937) add the following. NANSEMOND COUNTY: border of damp woods, South Quay, no. 9567. GREENSVILLE COUNTY: shallow pond-hole in woods, just north of Dahlia, no. 8691 (large trees, the foliage with balsamic odor); pond-hole in pine and oak woods near Three Creek, north of Emporia, no. 9309 (large trees).

The slenderest-leaved extreme, closely matching the narrowest-leaved twigs of *Curtiss*, no. 5826, from Jacksonville, Florida, identified by Schneider.

CASTANEA NEGLECTA Dode. NANSEMOND COUNTY: sandy woods by Blackwater River, George's Bend, south of South Quay, no. 10,613. SURRY COUNTY: rich deciduous woods 1½ miles east of Blizzard's Corners, no. 9312. DINWIDDIE COUNTY: border of dry sandy woods east of Burgess, no. 10,232. SOUTHAMPTON COUNTY: mixed woods near Nottoway River, above Carey's Bridge, no. 10,612.

Although often called a hybrid of *Castanea dentata* and *C. pumila*, the shrubs east of Burgess are several miles from the nearest trees of *C. dentata* which used to be known to our driver and assistant, Leonard Birdsall, on whose land *C. neglecta* occurs. At the Surry County station both *C. dentata* and *C. pumila* were in the vicinity; but the shrubs in Nansemond seem to be removed by very many miles from the eastern limit in the state of *C. dentata*. *C. neglecta* appears to be a definite species.

QUERCUS CINEREA Michx. Range extended northwestward in SOUTHAMPTON COUNTY: dry white sand in oak and pine woods and clearings bordering Assamoosick Swamp, south of Sebrell, no. 9911. Found in NANSEMOND COUNTY: sandy pine barrens east of Cherry Grove, south of South Quay, no. 10,619.

POLYGONUM TENUE Michx. To the station already reported, in Isle of Wight County, add one in CAROLINE COUNTY: border of sandy woods of *Pinus virginiana*, about 1½ miles northwest of Bowling Green, no. 9041.

P. LAPATHIFOLIUM L. CHESTERFIELD COUNTY: dominant on silt of Appomattox River, Pocahontas, no. 9318.

The only time seen by us in eastern Virginia.

*P. PENNSYLVANICUM L., var. DURUM Stanford in RHODORA, xxvii. 180 (1925). ISLE OF WIGHT COUNTY: weed in cultivated field, north of Walters, no. 8705. GREENSVILLE COUNTY: border of cultivated field, about 1 mile northwest of Dahlia, no. 8704.

Extension north from South Carolina; presumably generally distributed in southeastern Virginia. Quickly distinguished by the nearly or quite glandless appressed-strigose stiff peduncles. See p. 469.

P. ROBUSTIUS (Small) Fernald. PRINCE GEORGE COUNTY: muddy tidal shore of James River, Jordan Point, no. 9043.

The glandular dots which appear on the perianth when dry are largely if not wholly post-mortem.

ACNIDA CANNABINA L. Extending up the James at least to PRINCE GEORGE COUNTY.

*MIRABILIS JALAPA L. YORK COUNTY: abundant about a dump, in the woods southeast of Yorktown, no. 8706.

*STELLARIA PROSTRATA Baldw. (*Alsine Baldwinii* Small.). GREENSVILLE COUNTY: forming close yellowish-green mats in lawns and grass-lands, Emporia, no. 9722. SOUTHAMPTON COUNTY: similar habitat, Courtland, no. 9723; also seen in Franklin.

Range extended northward from Georgia. In its closely depressed yellow-green mats and promptly disarticulating mature small calices and capsules *Stellaria prostrata* is very distinct. In southeastern

Virginia it is becoming a very objectionable weed of lawns, completely monopolizing the ground, maturing in late March and early April and by May leaving naked areas. See p. 489.

**CERASTIUM BRACHYPODUM* (Engelm.) Robinson. DINWIDDIE COUNTY: plowed land at border of rich woods, Cattail Creek, south of Burgess, no. 9718.

First north of Georgia. A characteristic species of the Gulf Coastal Plain and Mississippi Basin, thence west to Arizona and east to Georgia. At Cattail Creek apparently native, though intruded upon and stimulated by plowing of the area. Not found away from the border of the woods nor showing a tendency to spread into the cultivated field. See p. 489.

**C. BRACHYPETALUM* Desp. SOUTHAMPTON COUNTY: open sandy roadside 6–7 miles south of Franklin, no. 9922.

A very distinct European species, the bracteal leaves ending in tufts of trichomes. The first record from North America. See p. 490.

**C. VULGATUM* L., var. *HOLOSTEOIDES* Fries. SOUTHAMPTON COUNTY: roadsides and waste places, Courtland, no. 9921.

New to North America. A very striking plant, with only minutely hirtellous stems and nearly glabrous blue-green obtuse leaves. See p. 490.

RANUNCULUS LAXICAULIS (T. & G.) Darby. *R. oblongifolius* of authors generally, not Ell.

The very slender plant of the South, which regularly passes as *Ranunculus oblongifolius*, has filiform loosely sprawling stems, these weak stems and the diffuse panicle soon proliferating and developing flabelliform leafy divergent offshoots and wide-spreading repent stolons; its oblong petals conspicuously exceed the sepals, and the subglobose achenes have a subulate (soon deciduous) style.

When Elliott (Sk. ii. 58) described his *Ranunculus oblongifolius* he doubted its distinctness from *R. pusillus* Pursh. His diagnosis and comment were as follows:

Root fibrous. *Stem* 1–2 feet high, generally erect or declining, glabrous, smooth, branching and from the smallness of the upper leaves appearing naked towards the summit. *Leaves* oblong, irregularly denticulated, glabrous, the lower on petioles 1–3 inches long. *Peduncles* 10–15 lines long. *Calyx* at first closely appressed. *Petals* rather longer than the calyx. *Seeds* smooth without a vestige of the style, globose, with a slight longitudinal cicatrice.

This species which I propose with hesitation, differs from the preceding [*R. pusillus*] much in size, and appears to differ in the corolla and seed. It requires however, to be further examined.

Grows in ditches and wet places. Collected 12 miles from Savannah on the Augusta road. St. John's Berkley. Dr. Macbride.

Flowers May-July.

The diagnosis suggests *Ranunculus pusillus* rather than the very lax plant with few loosely paniculate long-stalked and relatively large flowers which regularly passes as *R. oblongifolius*. It was, therefore, not wholly surprising, when Mr. Long and I studied Elliott's material at Charleston in early April, to find that the type of *R. oblongifolius* is characteristic large material of *R. pusillus* Pursh.

For *R. oblongifolius* of authors the best name is apparently *R. laxicaulis* (T. & G.) Darby (1855). No one who is familiar with so-called *R. oblongifolius* would balk at the propriety of the name *laxicaulis*; it is most fitting. *R. laxicaulis* started as *R. Flammula*,

β. laxicaulis: stem weak, much branched; leaves all entire; lowest ones elliptical-oblong, upper ones linear; petals oblong, attenuate at the base, three times as long as the calyx

β. Milledgeville, Georgia. Dr. Boykin. July.— . . . Peduncles 1-2 inches long. Flowers 4-5 lines in diameter.—T. & G. Fl. i. 16 (1838).

Darby's fuller account was as follows:

R. LAXICAULIS, (T. & G.) *Stem* weak, much branched, declined, rooting at the lower joints, glabrous. *Leaves* smooth, linear-lanceolate, or elliptical, oblong; upper ones linear. *Peduncles* opposite the leaves, 1-2 inches long. *Carpels* with a subulate beak in a globular head. *Petals* much longer than the calyx, slender at the base.— $\frac{1}{2}$. Ditches, Car. and Geo. July.—Darby, Bot. So. States, 204 (1855).

Both the original Torrey & Gray account of Boykin's plant and the fuller account by Darby are perfect descriptions of the plant erroneously passing as *R. oblongifolius*. This I intimated in 1936 (RHODORA, xxxviii. 175), when I showed that the name *R. laxicaulis* certainly does not belong to *R. ambigens* Wats. Although, as then stated, the type can not be found, the descriptions are so convincing to one who has followed through the surrounding vegetation the "weak, much branched, declined" stems, "rooting at the lower joints," that I now have no hesitation in taking up for *R. oblongifolius* of authors, not Ell. the appropriate name *R. LAXICAULIS* (T. & G.) Darby.

In Virginia RANUNCULUS LAXICAULIS is local in HENRICO, ISLE OF WIGHT, SUSSEX and SOUTHAMPTON COUNTIES (many nos.).

R. MICRANTHUS Nutt. PRINCE GEORGE COUNTY: base of calcareous wooded slope, City Point, no. 9724; rich wooded ravine southeast of Hopewell, no. 9725; rich deciduous woods, Coggins Point, no. 9927. See p. 488.

The plant of rich calcareous woods in eastern Virginia is strikingly unlike that of thin rocky soils in New England, New York, northern New Jersey and Pennsylvania, being of a dark green color, with lustrous leaf-surfaces, the simple basal leaves usually subcordate to strongly cordate; whereas the northern plant of thin soils is paler green, with opaque foliage, the simple basal blades merely subtruncate to cuneate at base. The plant with lustrous leaves is coarser and the teeth of its basal leaves are broadly flattened or squared across the top but the teeth of the simple basal leaves of the smaller opaque and pale-green northern plant are more prolonged and short-ovate or dentate.

Nuttall described *Ranunculus micranthus* from Arkansas. The type, preserved in the Gray Herbarium, is like the plant of Prince George County. The smaller plant with more truncate-based and crenate-dentate simple basal leaves is

R. MICRANTHUS Nutt., var. **delitescens** (Greene), comb. nov. *R. delitescens* Greene in Am. Midl. Nat. iii. 333 (1914).

Another variety, from Indiana, with deeply cordate simple basal leaves but with the teeth much prolonged, is

R. MICRANTHUS Nutt., var. **cymbalistes** (Greene), comb. nov. *R. cymbalistes* Greene, l. c. (1914).

R. CAROLINIANUS DC. *R. palmatus* of recent Am. auth., not Ell.

One of the most definite species of the southeastern Coastal Plain is the slender and finally strongly repent plant which passes as *Ranunculus palmatus*. Separated from its allies (*R. septentrionalis* Poir. and *R. hispidus* Michx.) by its short (3.5–5 mm. long) and promptly reflexed glabrous sepals, its relatively short and narrow oblong petals, and by the few very large mature achenes (with bodies 3.7–5 mm. long), with the broad (0.5–1 mm.) marginal wing separated from the faces by high acute ridges, the species is further distinguished from the other tardily repent species, *R. septentrionalis*, by its very slender habit and small smoothish leaves, and heads with only 10–20 achenes. In the southern so-called *R. palmatus* the best-developed basal leaves have 3 mostly petiolulate rhombic-ovate, cuneate 3-cleft or 3-divided and sharply toothed leaflets.

In view of the very definite characters of this southern Coastal Plain type, it is, therefore, important to note of Elliott's account (Sk. ii. 61, with important notes on p. 62) that his *R. palmatus*, published with a mark of doubt, was hairy, the leaves "those of the root

palmately 3 parted" and that (on p. 62) he specifically stated that "in the *R. palmatus*, the leaves as far as I have seen them, are never divided to the base, and are very hairy". In other words Elliott's description calls for something quite different from *R. palmatus* sensu American authors (not Elliott). It was, consequently, reassuring, when Mr. Long and I studied Elliott's type at Charleston, to find that it is one of the states of *R. hispidus* Michx. with appressed pubescence. There are abundant achenes and these are of *R. hispidus*.

The plant nowadays incorrectly called *R. palmatus* is *R. carolinianus* DC. Syst. i. 292 (1817), with "foliis glabriusculis trisectis trilobisve, lobis ovatis subincisis dentatis, calyce glabriusculo reflexo petalis paulò brevioribus," from "Carolina inferiore". Elliott copied DeCandolle's description of approximately the same date but he did not know the plant, merely noting:

Radical leaves trisected or three lobed, segments and lobes ovate, obtuse, and obtusely toothed. DeCand.

This plant appears to resemble the preceding species [*R. palmatus*], but in the *R. palmatus*, the leaves as far as I have seen them, are never divided to the base, and are very hairy.

The basal leaves, the smooth and reflexed sepals and the "petalis potiùs oblongis quàm obovatis" of DeCandolle's account of *Ranunculus carolinianus* are conclusive. Furthermore, Asa Gray, examining the type at Geneva, made the memorandum: "I have no form so slender and few- and large-fruited as the *R. Carolinianus* DC. *R. palmatus* Ell. in Hb. Torr. from Chapman.—Feb., 1886." No material of this southern species was in the Gray Herbarium during Gray's lifetime. *R. palmatus* sensu auth., not Ell. becomes, then, *R. CAROLINIANUS* DC.

In Virginia *RANUNCULUS CAROLINIANUS* is found in low woods, on wet bottomlands and by streams in GLOUCESTER, NORFOLK, PRINCE GEORGE and SOUTHAMPTON COUNTIES (many nos.).

RANUNCULUS SARDOUS Crantz. The small station previously reported doubtless had its origin from a very extensive one in SOUTHAMPTON COUNTY: very abundant weed, not eaten by cattle, in pastures, on roadsides and in fields about Franklin, no. 9933.

Destined to become a pernicious weed unless vigorous measures for several years are taken to eradicate it.

ANEMONELLA THALICTROIDES (L.) Spach. Range extended eastward to SURRY COUNTY: rich calcareous woods, ravine 1½ miles north of Surry, no. 9727.

THALICTRUM REVOLUTUM DC. To the stations along the James add

the following. DINWIDDIE COUNTY: rich deciduous woods about old marl-pits east of Burgess Station, no. 9934. SUSSEX COUNTY: dry woods bordering Assamoosick Swamp, about 2 miles northeast of Homeville, no. 10,263.

T. MACROSTYLUM (Shuttlew.) Small & Heller. HENRICO COUNTY: sphagnous springy swales bordering Whiteoak Swamp, west of Elko Station, nos. 8710, 8711, 9050. JAMES CITY COUNTY: wooded floodplain, Longhill, *Grimes*, no. 4086 (as *T. polygamum*). See p. 470.

Chiefly a plant of the upland.

CLEMATIS PANICULATA Thunb. Abundantly naturalized in damp thickets and swamps and on shores, PRINCE GEORGE, GREENSVILLE and ISLE OF WIGHT COUNTIES (many nos.).

**C. PANICULATA*, var. *DIOSCOREAEFOLIA* (Lév. & Vaniot) Rehder. PRINCE GEORGE COUNTY: abundant along the James from City Point to Jordan Point, nos. 8714, 9052.

**BERBERIS THUNBERGII* DC. CHESTERFIELD COUNTY: abundantly naturalized, alluvial woods and clearings, Pocahontas, no. 9324.

CARDAMINE DOUGLASSII (Torr.) Britton. PRINCE GEORGE COUNTY: rich bottomland woods along Wall's Creek, no. 9736. SURRY COUNTY: bottomland woods, calcareous ravine, 1½ miles north of Surry, nos. 9737 (petals deep purple), 9738 (petals paler). See p. 489.

**C. PENNSYLVANICA* Muhl., var. *BRITTONIANA* Farwell. Characteristic of wooded springheads and wooded brooksides, especially in calcareous areas. PRINCE GEORGE COUNTY: alluvial woods by Wall's Run, northwest of Garysville, no. 9937. SURRY COUNTY: springhead, bottomland woods in calcareous ravine 1½ miles north of Surry, no. 9739. NORFOLK COUNTY: border of gum swamp west of Cedar Hill, *Fernald & Griscom*, no. 4420. PRINCESS ANNE COUNTY: wooded (gum) swamp, Oceana, *Fernald & Griscom*, no. 4419.

**CAPSELLA RUBELLA* Reut. Frequent or common in waste places and on roadsides (several nos.).

× *SARRACENIA CATESBAEI* Ell. GREENSVILLE COUNTY: with the two parents, sphagnous bog about 1 mile northwest of Dahlia. no. 8716. See p. 472.

DROSERA BREVIFOLIA Pursh. To the three records (from Nansemond, Elizabeth City and Greensville Counties) already noted add the following. DINWIDDIE COUNTY: argillaceous and sphagnous bog ("Reams bog"), south of Burgess, no. 9574; wet argillaceous and siliceous depressions north of Burgess Station, no. 9939. SUSSEX COUNTY: sandy and peaty depression (exsiccated shallow pond) about 4 miles northwest of Homeville, no. 9940; peaty and argillaceous swale north of Littleton, no. 9941. NANSEMOND COUNTY: seeping bank of ditch at margin of woods, about 2 miles southeast of Cleopus, no. 9573.

Drosera brevifolia is probably rather common in the area but usually overlooked. Its flowering season is very limited, in May (possibly

early June); and the large (1–1.4 cm. broad) white flowers close promptly at noon. Through the hot summer the shrivelled plants are very inconspicuous but in October the new deep-red rosettes appear in profusion. See p. 487.

SAXIFRAGA VIRGINIENSIS Michx. Local range extended well into the Coastal Plain in SURRY COUNTY: rich wooded ravine northwest of Bacon's Castle.

DEUTZIA SCABRA Thunb. SURRY COUNTY: roadside thicket, Claremont Wharf, no. 9942.

PYRUS SEROTINA Rehder. Rather frequent at borders of woods in DINWIDDIE, SURRY and SOUTHAMPTON COUNTIES (several nos.).

RUBUS PHOENICOLASIUS Maxim. CHESTERFIELD COUNTY: thickets, Pocahontas, no. 9335.

POTENTILLA RECTA L. Railroad banks and waste places, becoming frequent, DINWIDDIE COUNTY to GREENSVILLE COUNTY (several nos.).

AESCHYNOMENE VIRGINICA (L.) BSP. PRINCE GEORGE COUNTY: border of rich alluvial thicket back of sand-beach of James River, Jordan Point, no. 9343. SURRY COUNTY: sandy beach of James River, at mouth of Crouch Creek, east of Scotland, nos. 8724, 9344, 9580. JAMES CITY COUNTY: tidal shore, Back River, opposite Jamestown Island, no. 11,052. CHARLES CITY COUNTY: sandy tidal shore of Chickahominy River, Ferry Point, no. 11,053.

Reinstatement of an interesting plant to the flora of the state. Apparently not previously known in Virginia since the collection of the type by Clayton. See pp. 466 and 475 and MAP 1, also RHODORA, xxxix. 473 (1937).

**DESMODIUM OCHROLEUCUM* M. A. Curtis. CAROLINE COUNTY: border of sandy woods of *Pinus virginiana*, about 1½ miles northwest of Bowling Green, no. 9066. SUSSEX COUNTY: dry sandy hickory and oak woods, Burt, no. 6237.

One of the very rare species of the genus, thoroughly distinct in its creamy petals, changing to yellowish, and in its twisted and not always clearly articulated segments. See p. 474.

D. RHOMBIFOLIUM (Ell.) DC. To the records from Norfolk and Isle of Wight Counties add the following from SOUTHAMPTON COUNTY: border of dry sandy woods, Mars Hill Church, no. 9067; dry sandy open pine and oak woods 6 to 7 miles south of Franklin, no. 8728.

LATHYRUS HIRSUTUS L. Recorded in RHODORA, xxxix. 433 (1937) as new to Virginia. Now rather common in HENRICO, DINWIDDIE, PRINCE GEORGE and SURRY COUNTIES (many nos.).

APIOS AMERICANA* Medikus, var. **turrigera, var. nov. (TAB. 575, FIG. 1 et 2), racemis laxis lanceolato- vel ovoideo-attenuatis, apice prolongatis.—Southeastern and central United States, apparently local. The following specimens are before me. VIRGINIA: rich alluvial

woods and thickets back of sand-beach of James River, below Sunken Meadow Beach, Surry County, August 23, 1938, *Fernald & Long*, no. 9079 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.). SOUTH CAROLINA: rich thicket, North Charleston, July 15, 1927, *Wiegand & Manning*, no. 1632; river-swamp east of Hendersonville, July 20, 1927, *Wiegand & Manning*, no. 1633. MISSISSIPPI: Ocean Springs, 1895, *J. Skehan*. LOUISIANA: old specimen ex herb. Torrey. ILLINOIS: Mt. Carmel, August 6, 1887, *M. B. Waite*; damp thicket, Calamas Lake, Macon County, July 22, 1915, *Clokey*. KANSAS: sandy woods, Pottawatomie County, July 23, 1895, *J. B. Norton*, no. 117. OKLAHOMA: Cherokee Nation, August 19, 1895, *J. W. Blankinship*.

Typical *Apios americana* has the compact and thick raceme strongly rounded at summit (FIG. 3). When mature, with flowers or fruits dropped, the rachis is 3–17 cm. long. In var. *turrigera* the denuded mature rachis is usually 1–2 dm. long. The plants of the latter variety, as well as those of forma *pilosa* Steyermark (1938), will be found in the herbaria under the synonymous names, *Glycine Apios* L. (1753), revived by Britton (1913); *Apios americana* Medikus (1787), revived by Rehder (1934); *A. tuberosa* Moench (1794) and *Apios Apios* (L.) Macmillan (1892). Had those who have devoted much time to juggling the names looked at the material they might have discovered that their names covered at least three different entities! See p. 475.

In PLATE 575, FIG. 1 shows an inflorescence, $\times 1$, of *Apios americana*, var. *turrigera* from the TYPE, Sunken Meadow Beach, Virginia, *Fernald & Long*, no. 9079; FIG. 2, inflorescences, $\times 1$, from east of Hendersonville, South Carolina, *Wiegand & Manning*, no. 1633. FIG. 3 is a characteristic inflorescence, $\times 1$, of typical *A. americana*, from Fishers Island, New York, *St. John*, no. 2761.

PTELEA TRIFOLIATA L. Extending down the James well into the Coastal Plain. PRINCE GEORGE COUNTY: rich alluvial woods and thickets by James River, Upper Brandon, no. 9356. SURRY COUNTY: rich alluvial woods and thickets back of sand-beach of James River, Eastover, no. 8746. See p. 466.

*PONCIRUS TRIFOLIATA (L.) Raf. SURRY COUNTY: a single shrub 1 m. high at border of woods, west of Claremont, no. 9085.

It was surprising to find the Trifoliate Orange, so much employed as a fiercely spiny hedge-shrub farther south, hardy and in open woods of Surry County.

CROTONOPSIS ELLIPTICA Willd. CHESTERFIELD COUNTY: exsiccated sandy woodroad $1\frac{1}{2}$ miles northwest of Ettrick, no. 9358. AMELIA COUNTY: border of argillaceous bog about 1 mile north of Winterham, no. 9090. See p. 474.

Certainly very local. The only Virginian material previously in the Gray Herbarium is from Fairfax County.

**EUPHORBIA AMMANIOIDES* HBK. YORK COUNTY: sandy beach, York River, northwest of Yorktown, no. 7510 (distributed as *E. polygonifolia*).

Dr. Louis C. Wheeler calls my attention to this material, collected after dark and mistaken for the common sand-beach *Euphorbia polygonifolia*. It is *Chamaesyce Ingallsii* Small of "sand-dunes, Fla. to Tex."

**E. FALCATA* L. HENRICO COUNTY: railroad siding west of Elko Station, no. 9093. Previously collected (distributed without identification) in BATH COUNTY: along railroad, locally abundant, vicinity of Millsboro, September 17, 1907, *E. S. Steele*.

Both stations are on the Chesapeake and Ohio Railroad. This characteristic European species may be confidently looked for across the state, near this trunk line. See p. 473.

**CALLITRICHE DEFLEXA* A. Br., var. *AUSTINI* (Engelm.) Hegelm. (*C. Austini* Engelm.). NORFOLK COUNTY: damp road in pine woods east of North Landing, May 6, 1935, *Fernald & Griscom*, no. 4447. GREENSVILLE COUNTY: fallow argillaceous field and exsiccated pond-hole, north of Skipper's, no. 9968. See p. 490.

ACER NEGUNDO L. Extending down the James to CHARLES CITY COUNTY: alluvial woods along James River, Harrison Point, no. 9097.

**PARTHENOCISSUS QUINQUEFOLIA* (L.) Planch., forma *HIRSUTA* (Donn) Fernald in RHODORA, xli. 429 (1939). PRINCE GEORGE COUNTY: alluvial woods by Wall's Run, northwest of Garysville, no. 9979.

VITIS VULPINA L. (*V. cordifolia* Michx.). See RHODORA, xli. 431 (1939). Rather frequent in rich or alluvial thickets eastward to SURRY and SOUTHAMPTON COUNTIES also on the shores of Back Bay in PRINCESS ANNE COUNTY (many nos.).

V. ROTUNDIFOLIA Michx.

On the wooded alluvial bottomland of Meherrin River, near Haley's Bridge, an area which had been deeply submerged during much of the summer of 1938, long pendulous and branching cord-like roots hung in September and October from trunks and branches 3 m. above the ground. These tough pendulous roots, up to 2.25 m. long, gave the aspect of festoons of *Tillandsia usneoides*.

**SIDA RHOMBIFOLIA* L. SOUTHAMPTON COUNTY: roadsides and waste places, Courtland, nos. 8765 and 9098.

Extension north from North Carolina. See p. 469.

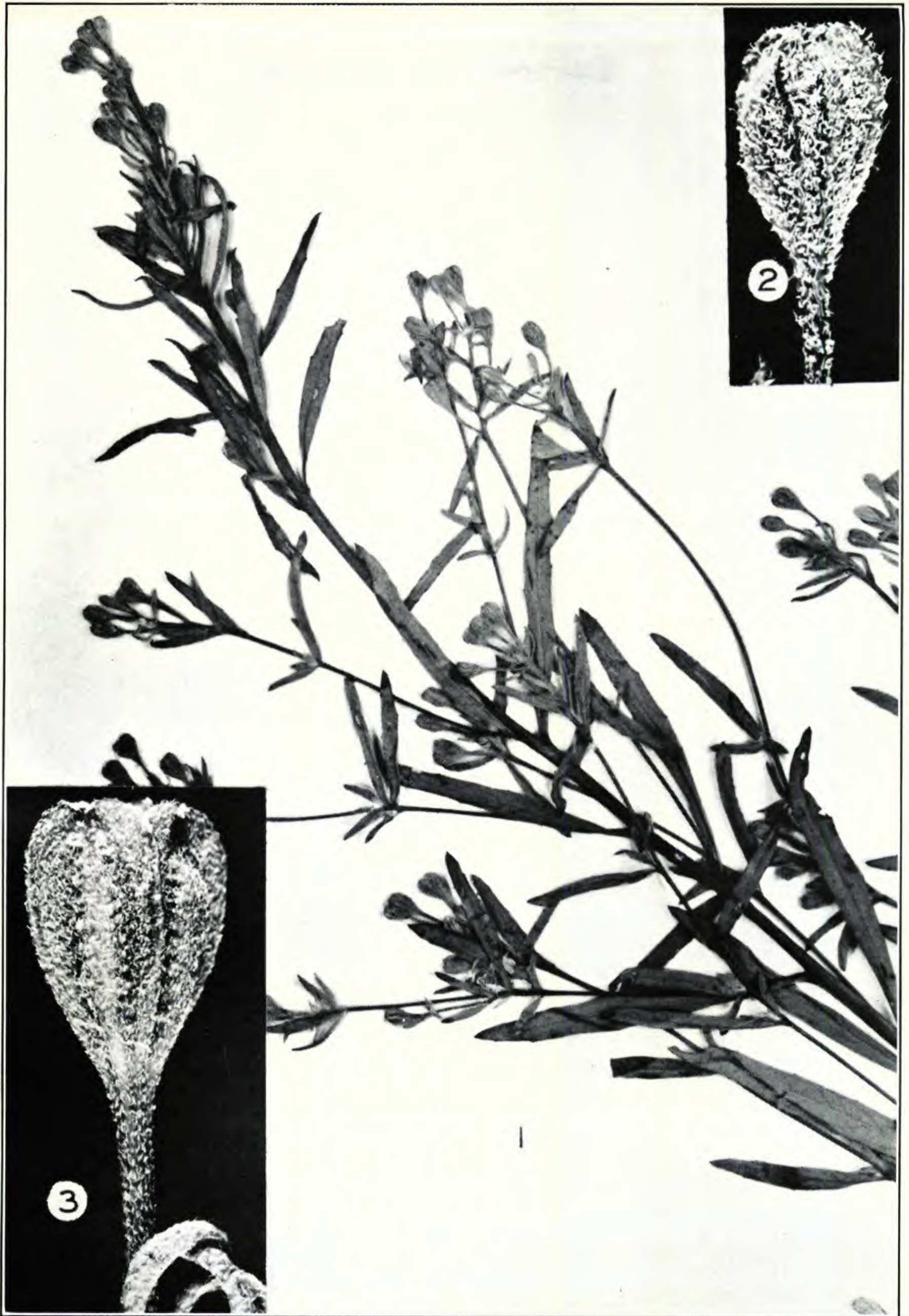


Photo. W. H. Hodge

OENOTHERA FRUTICOSA, var. MICROCARPA: FIG. 1, summit of TYPE, $\times 1$; FIG. 2, capsule, $\times 5$.

Var. SUBGLOBOSA: FIG. 3, capsule, $\times 5$, from Georgia.



Photo. W. H. Hodge

OENOTHERA FRUTICOSA, var. UNGUICULATA: FIG. 1, TYPE, $\times 2/5$; FIG. 2, bud, $\times 3$, from TYPE; FIG. 3, capsule, $\times 5$, from topotype.

Var. VERA: bud, $\times 3$, from New Jersey.